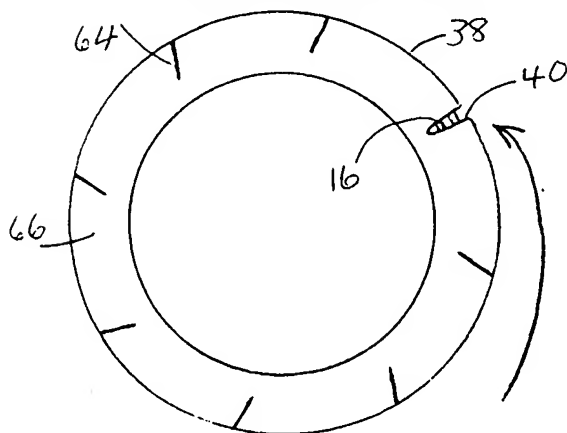


Spring loaded button presses spring down and allows tab at end of spring to pass under it for one revolution whereupon when released it stops the bobbin from rotating further.

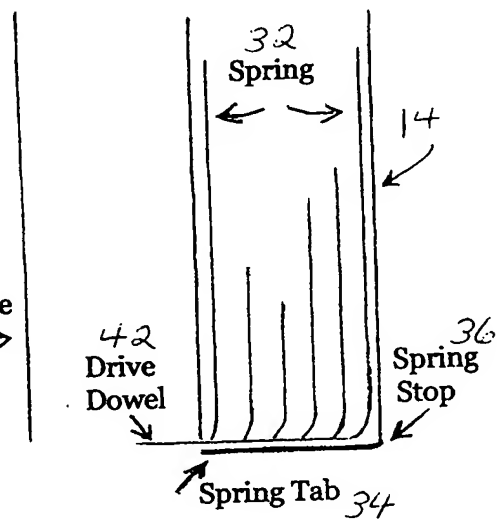
Spring made of plastic, steel or other material that can be wound tight powering the bobbin to rotate.



38  
Bobbin side

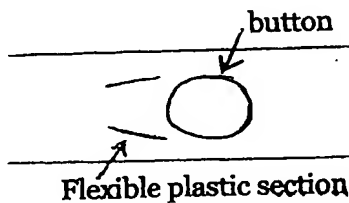
Bobbin has slot to allow pin to move to move up and down upon releasing spring yet propelling the spindle around one revolution at a time collecting used floss.

FIG. 3C



Top view of Accumulator Ring on edge

FIG. 3D



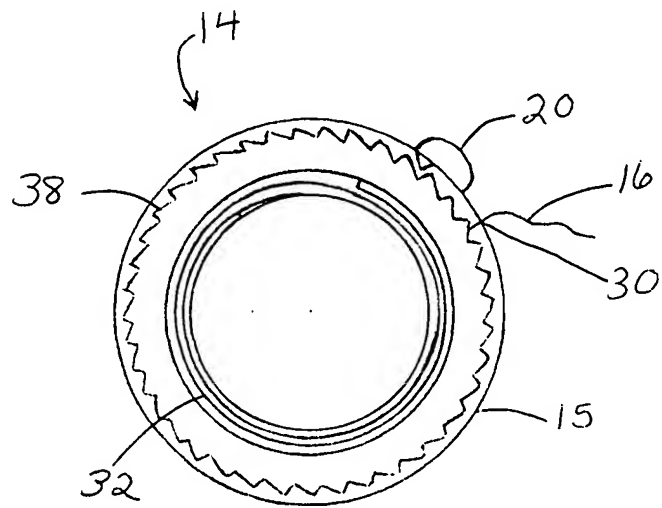


FIG. 3E

An example of a ring with spring in an inner location and controlled via a gear rotating on the edge of a bobbin.

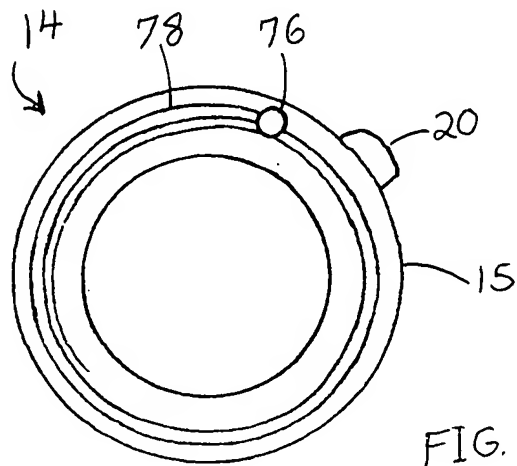


FIG. 3F

An outer spring arrangement with one of many ways to wind.

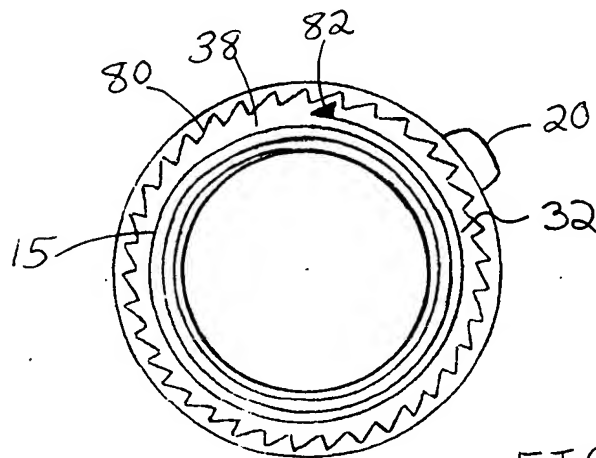


FIG. 3G

An example of spring ratcheting mechanism integrated into outer ring housing.

## Dispensing Ring

One iteration could use a button with sliding action that simply locks and unlocks by riding over the floss jamming it locked (Figure 1). Another alternative would have a button connected to teeth that could lock into a gear that is connected to a roller that the floss is wound on (Figure 2).

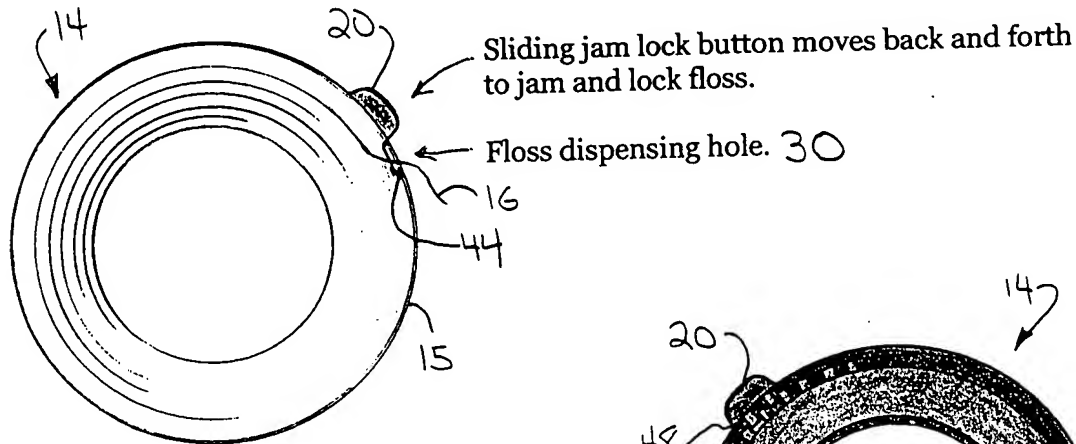


Figure 4

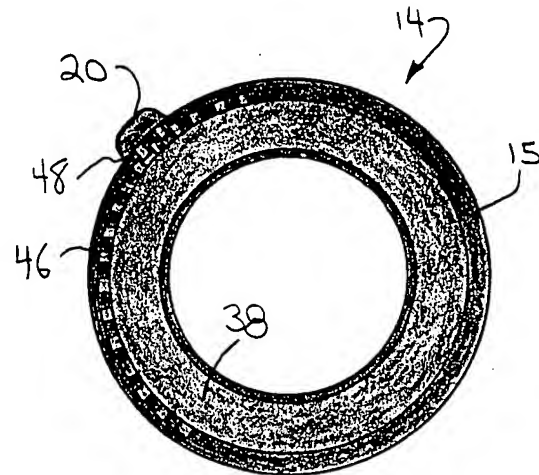
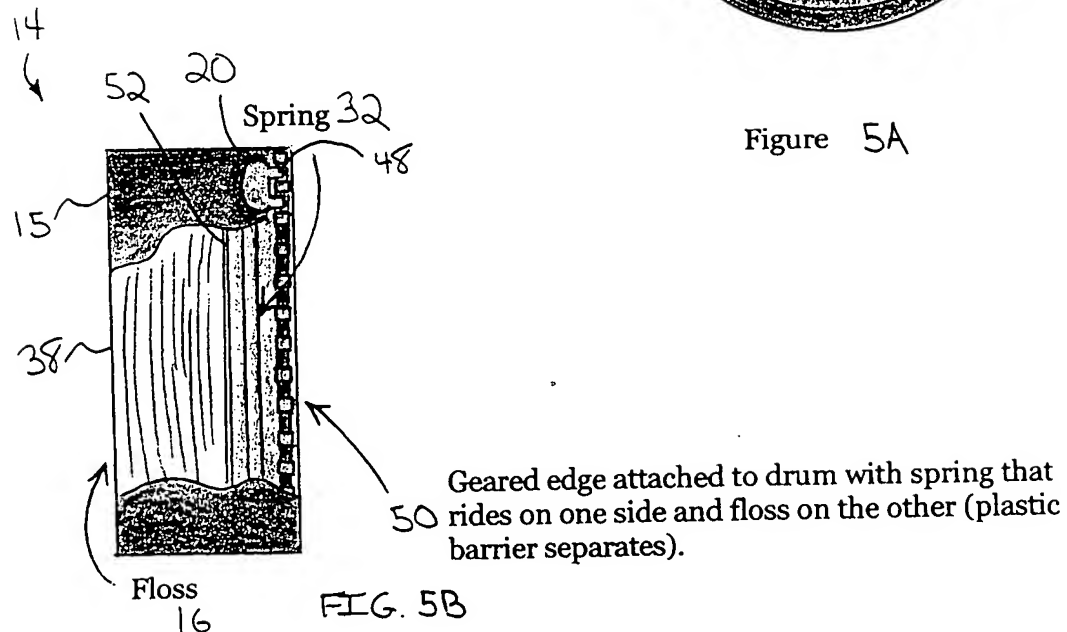
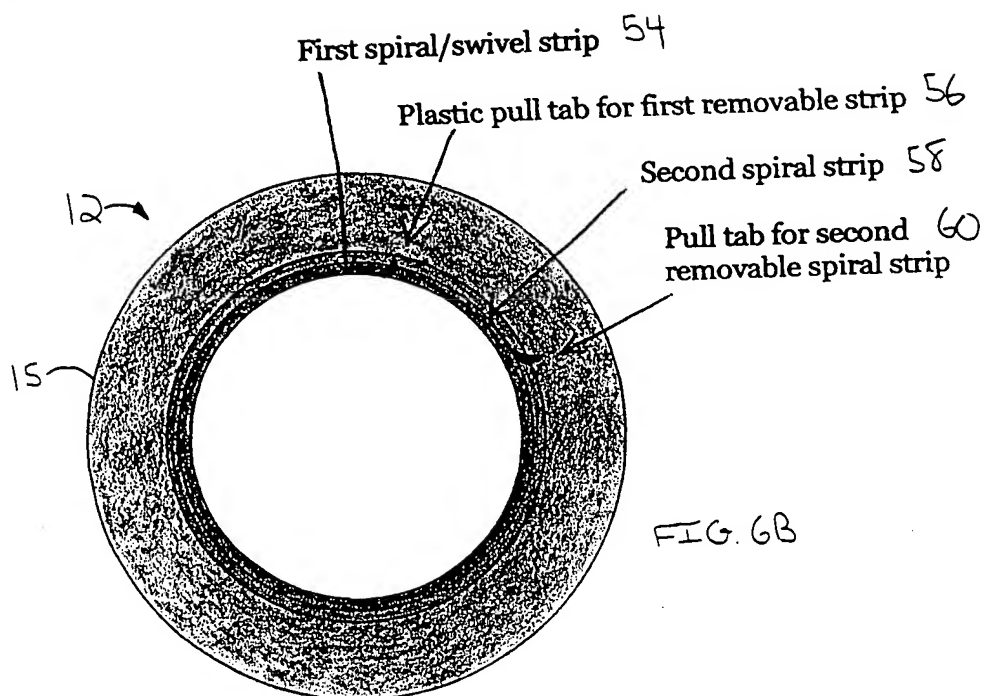
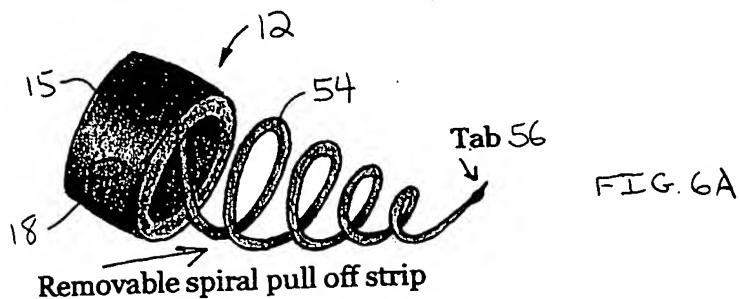
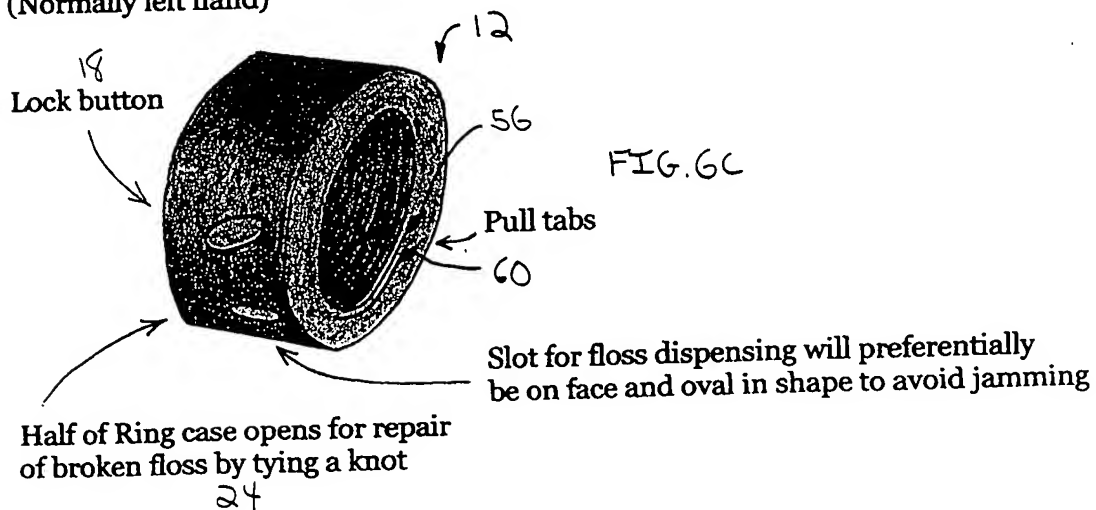


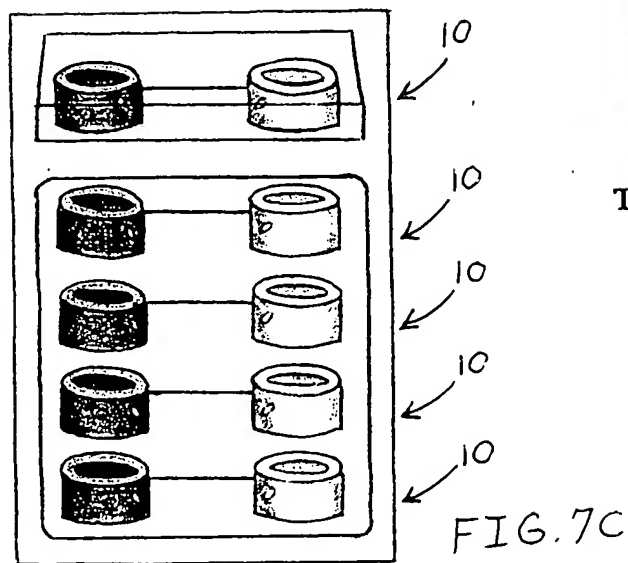
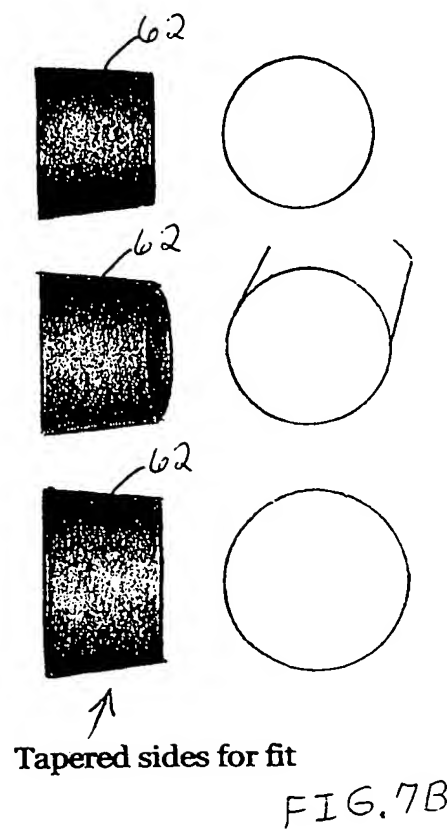
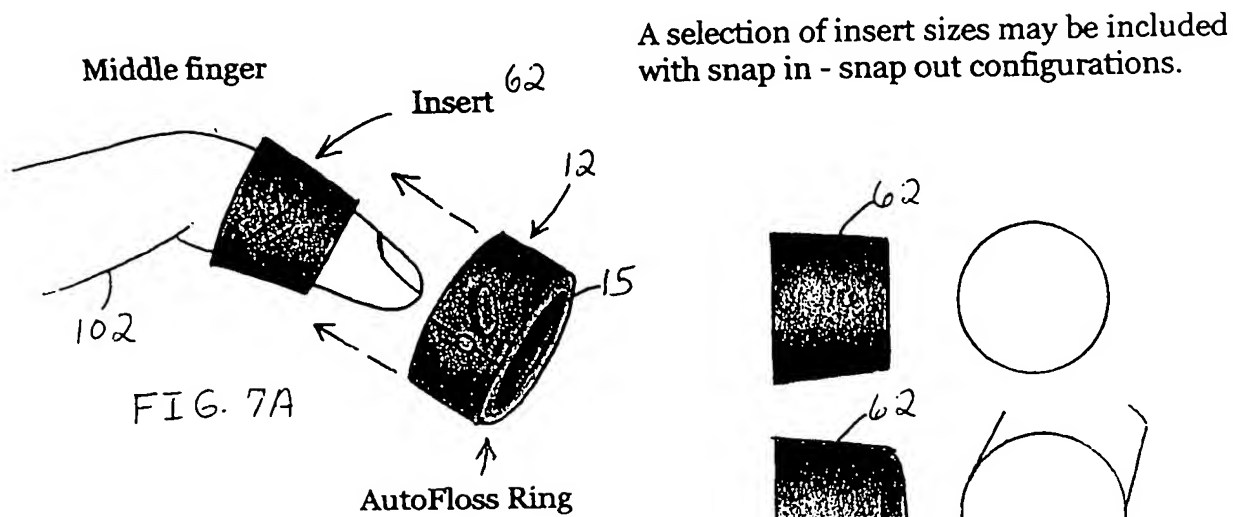
Figure 5A





Dispenser Ring  
 (Normally left hand)





AutoFloss Rings may be sold in a multipack with a plastic box included to hold the Rings in use.

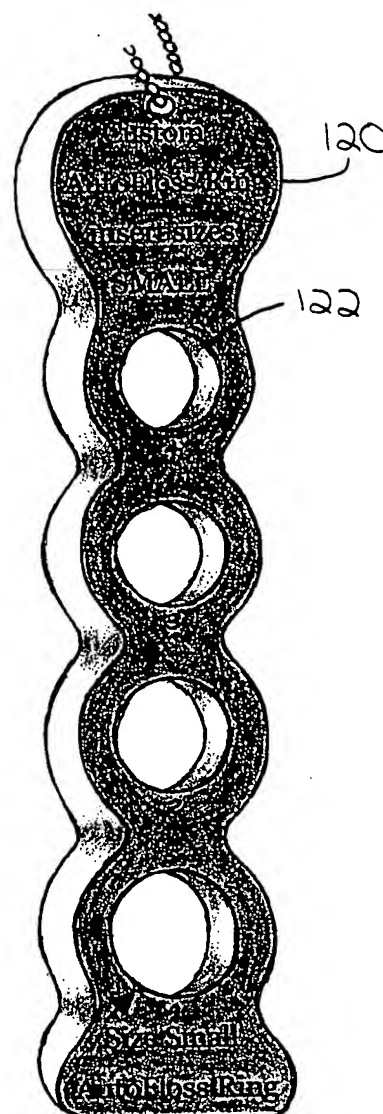
AutoFloss Ring insert gauge for customer use at point of sale.

Customers can find the most comfortable size insert by trying their middle finger in the gauge.

Insert gauges may be supplied, for example, for small, medium, large and extra large AutoFloss Ring sizes.

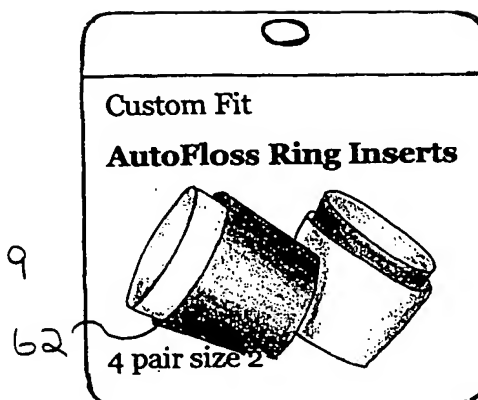
AutoFloss Rings sold in small, medium, large and extra large may come with a pair - and a spare - of the standard size small, medium, large and extra large inserts included in the package.

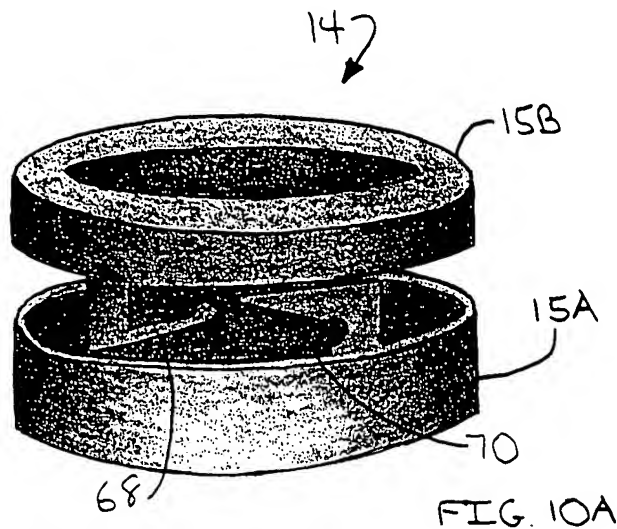
FIG. 8



In addition to the standard sizes, there may be additional sizes of inserts offered which may be sold separately. Four to six pair, for example, may be included in a package.

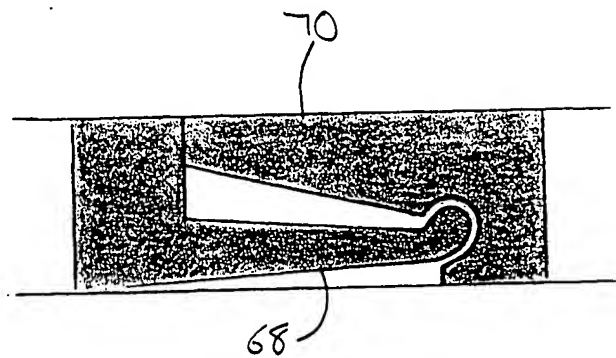
FIG. 9





Closing nub example

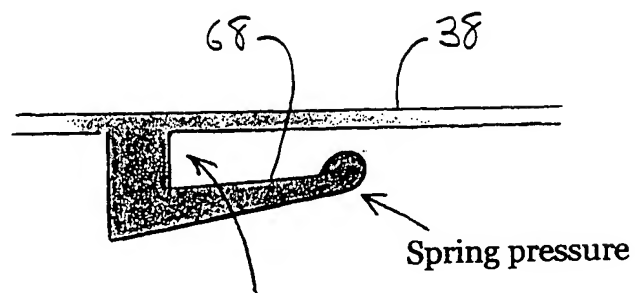
FIG. 10A



Locking nubs in closed position  
 under spring tension

FIG. 10B

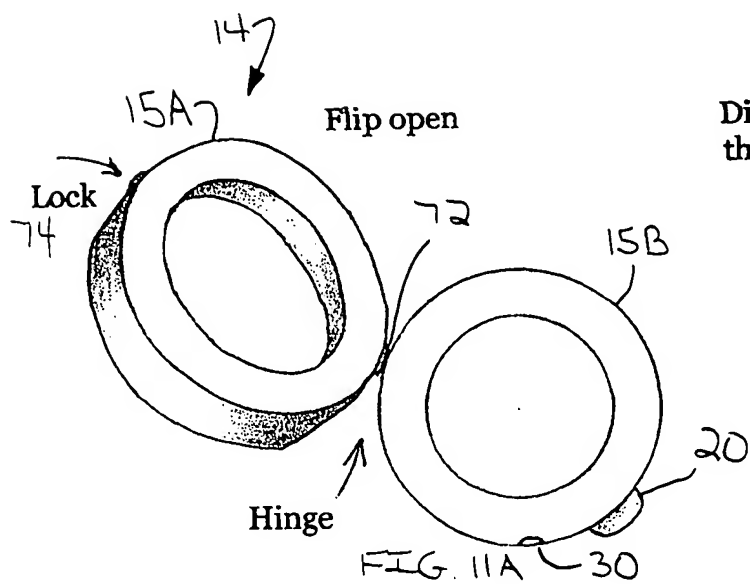
Likely two or three sets on Ring



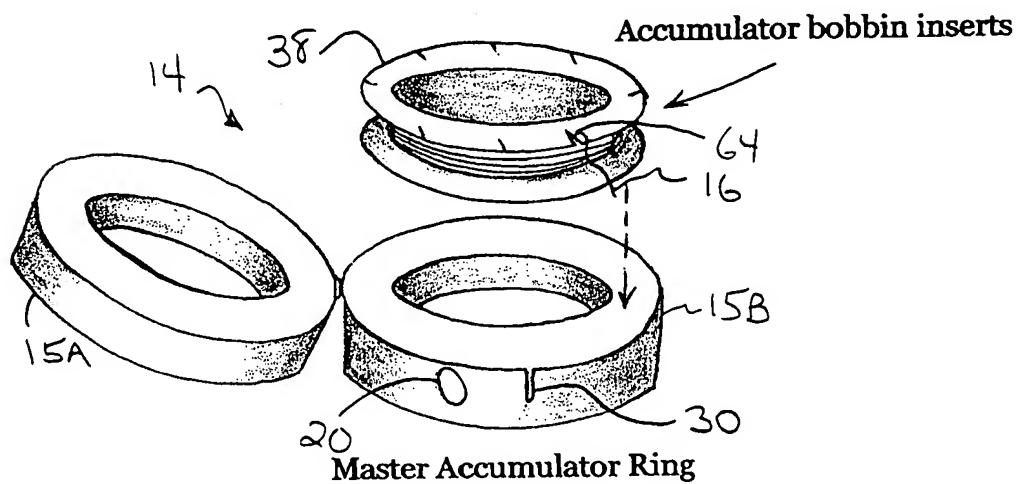
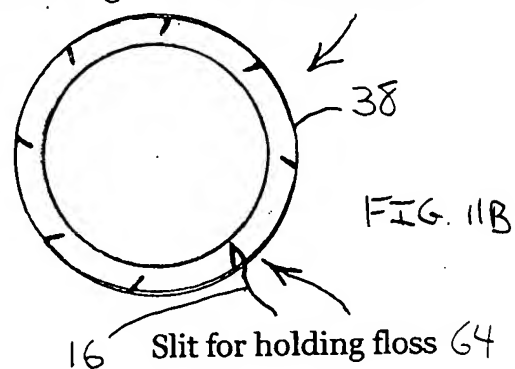
One nub could be made in stainless steel to  
 simultaneously serve as a floss cutter

FIG. 10C





Disposable floss bobbin inserts into the "Master Ring" - Accumulator Ring



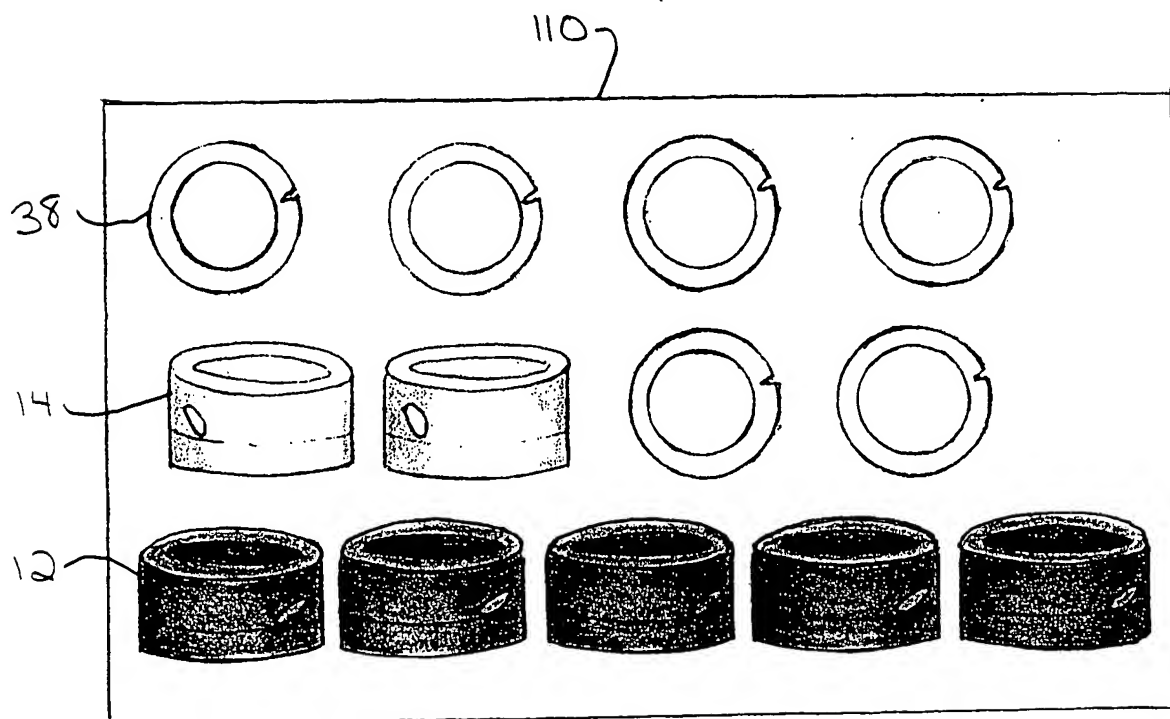
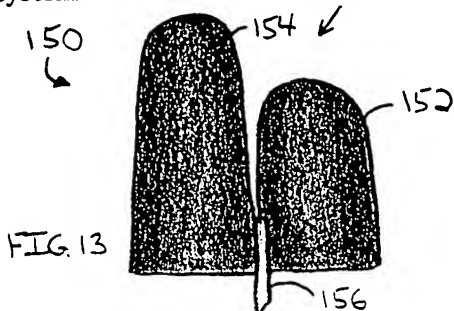


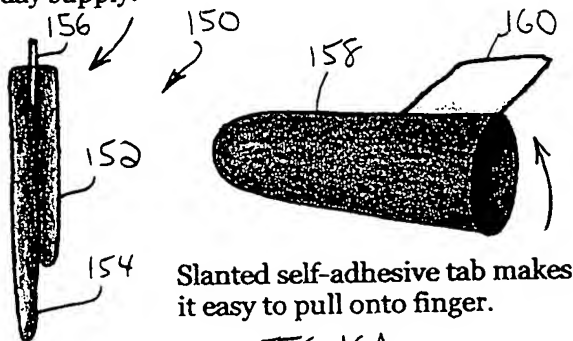
FIG. 12

In this configuration, a package of five Dispenser Rings, two master accumulator rings and ten - fifteen (stacked two or three deep) bobbins

Thumb and index finger FingerShields produced as part of the automated hygienic AutoFloss Ring - FingerShield system. Paired for ease of use.



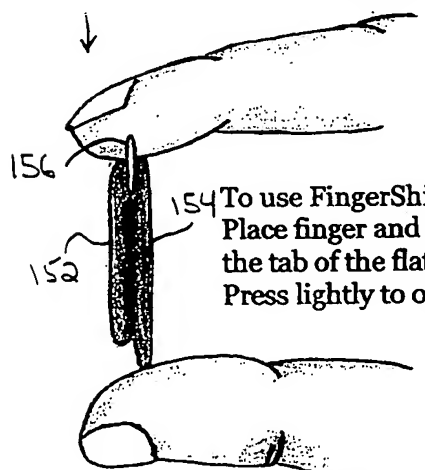
FingerShield sets are packaged flat with 60 pairs per pack - a 30 day supply.



Slanted self-adhesive tab makes it easy to pull onto finger.

FIG. 16A

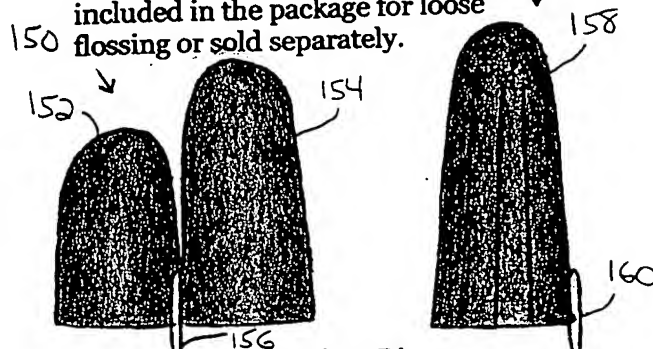
Finger insert end view of FingerShields



To use FingerShields:  
Place finger and thumb just behind the tab of the flattened pair of FingerShields.  
Press lightly to open and make round.

FIG. 16B

Thumb and index finger FingerShields are produced in pairs along with a separate middle finger with staves included in the package for loose flossing or sold separately.



For use with AutoFloss Rings.

FIG. 14

Middle finger offered with reinforcing staves for resisting pinching of finger and cutting off circulation when floss is wound around tight enough to act as an anchor for flossing.

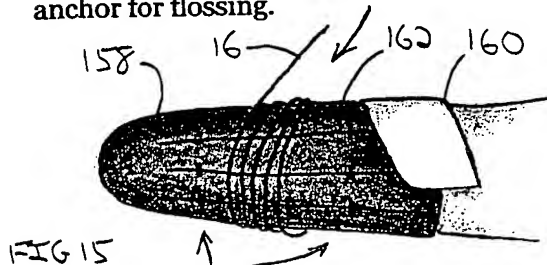


FIG. 15

Flex points on the staves at the two finger joints to facilitate easy bending.

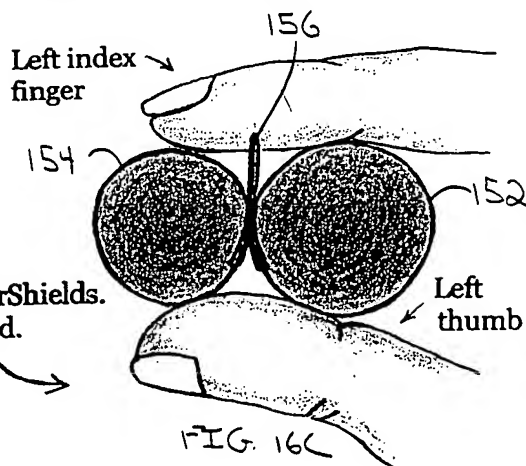
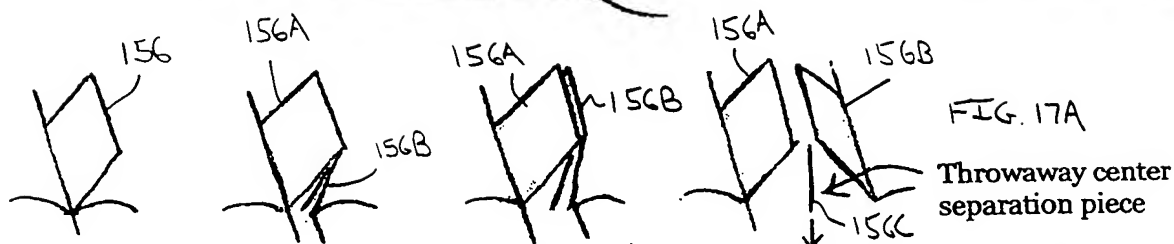
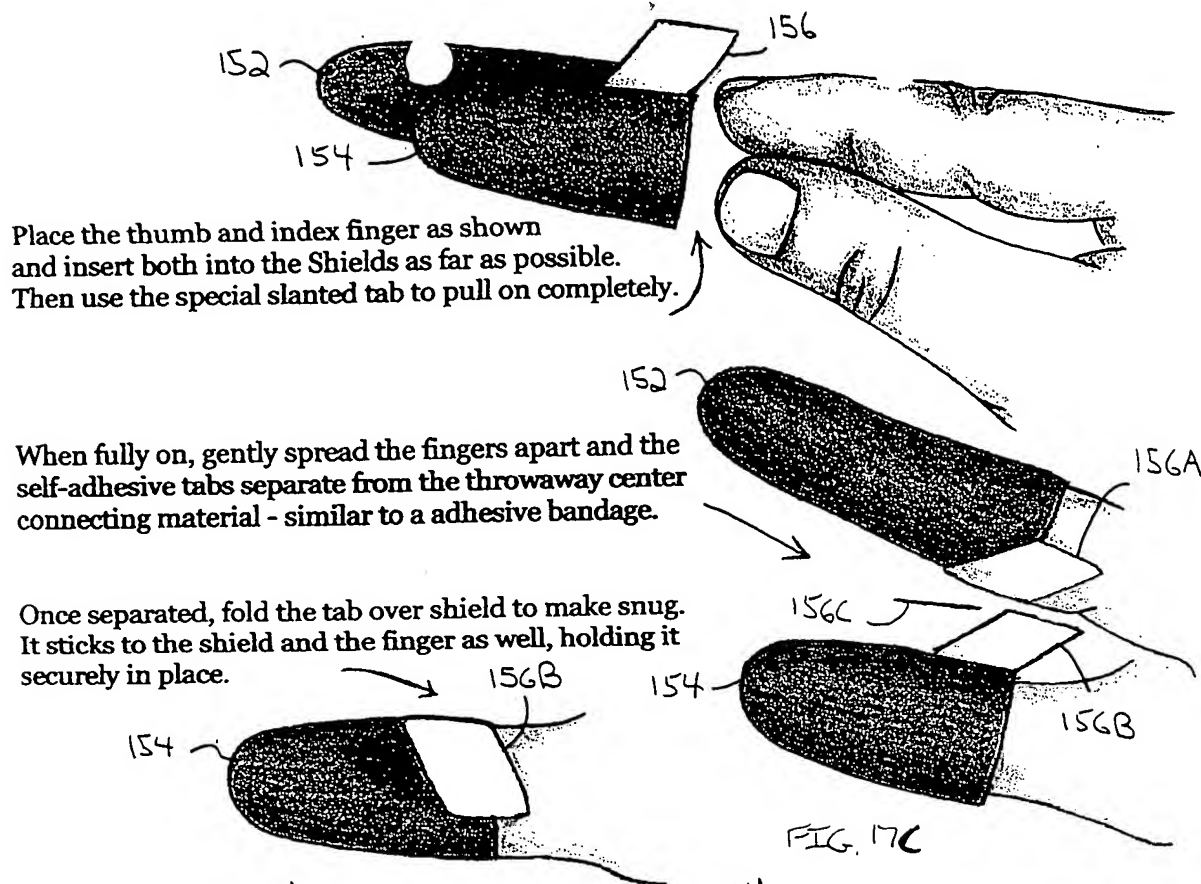
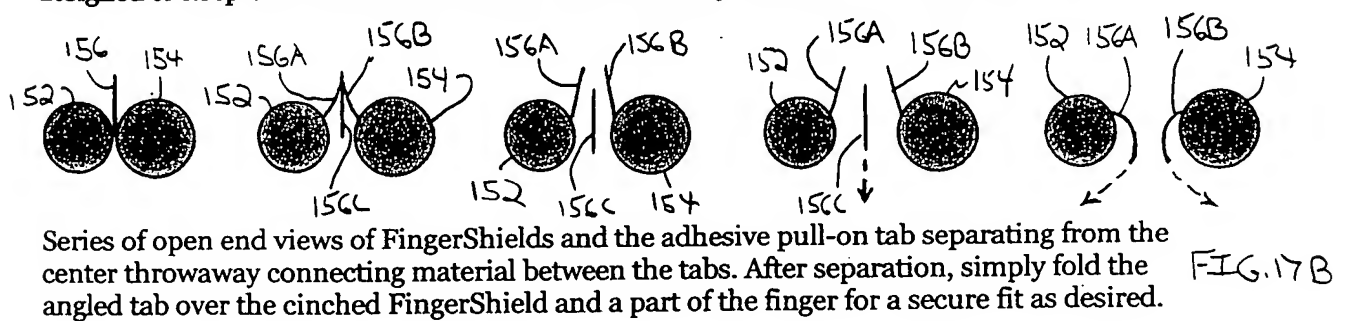


FIG. 16C

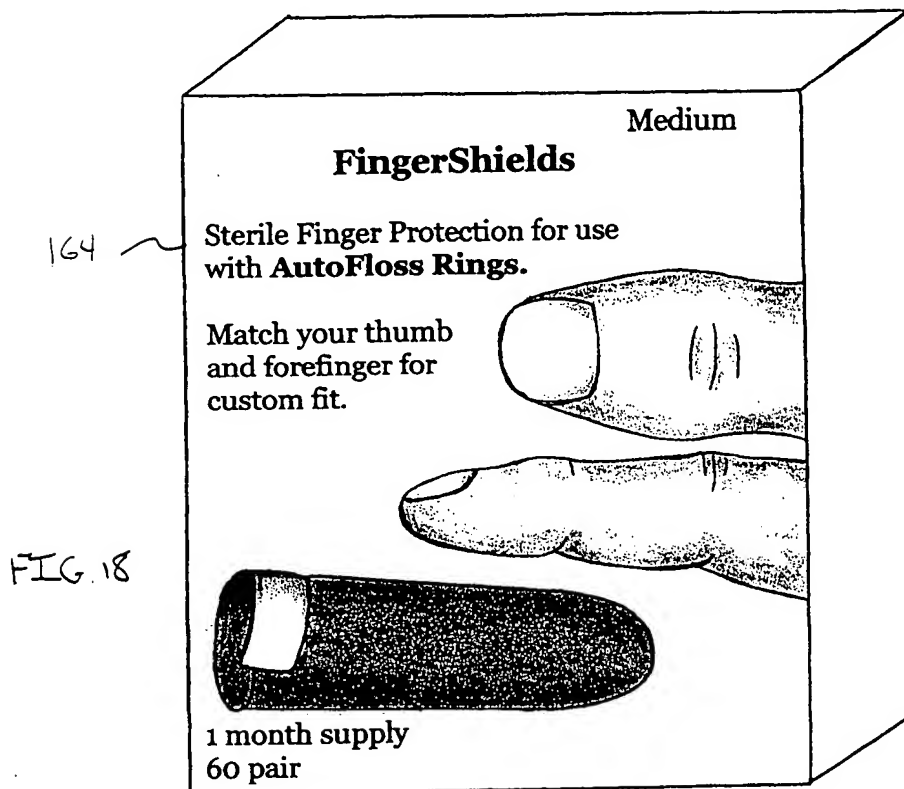


Self-adhesive tabs peel away from each side of throwaway center separation material designed to keep both adhesive surfaces fresh and ready to adhere to finger and thumb.



Packages may come with an outline displaying the actual size thumb and index finger that will fit the size FingerShield within. Customers can match their own thumbs and fingers against the outline to assure buying the right size - likely offered in small, medium, large and extra large.

**FingerShields** for use with or without **AutoFloss Rings**.



Thumb and forefinger on back of package are illustrated to be matched by individual users to facilitate proper size and comfortable fit.

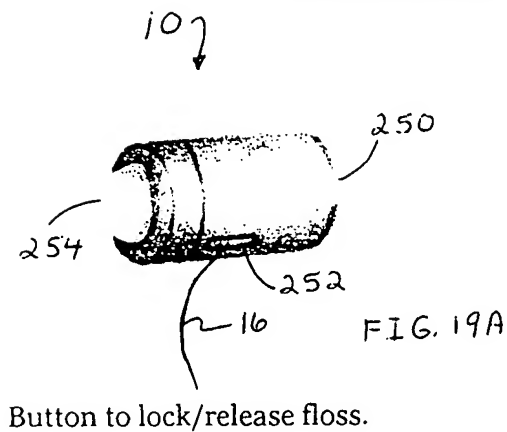
FingerShields may be offered in small, medium, large and x-large sizes.

Each package may contain a one month supply, 60 pair (30 pair for each hand).

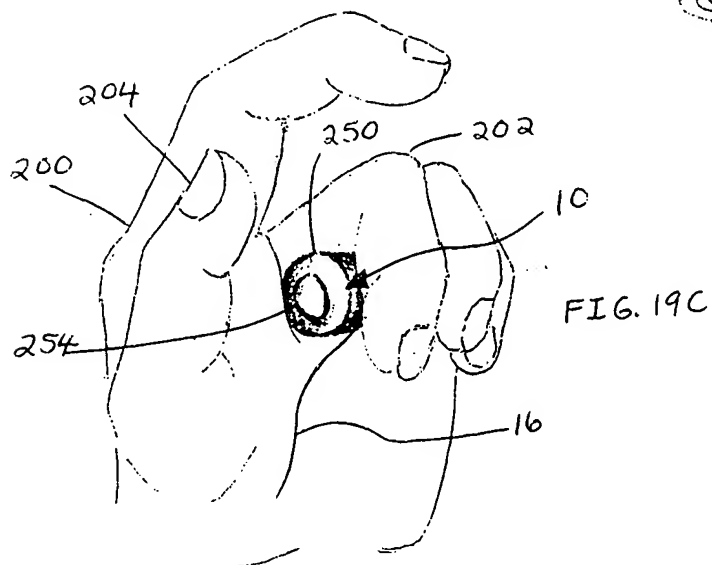
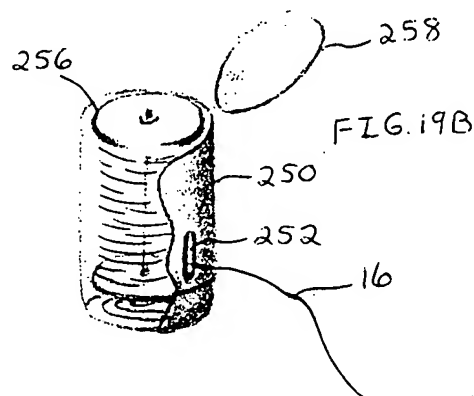
For use with loose floss, reinforced middle finger FingerShields could be sold separately or in packages that include all three FingerShields - thumb, index and reinforced middle fingers.

## AUTOMATED FLOSS BARRELS

Examples of Barrel Shaped Automated Floss  
 Dispensing and/or Accumulating Flossing Devices:



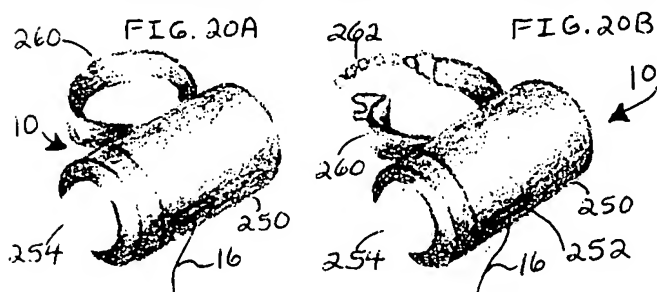
Internal bobbin revolves around central thin  
 dowel and allows for greater amount of floss  
 storage. Spring mechanism on bottom.



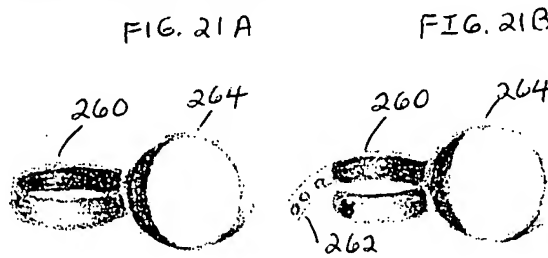
In one iteration, the barrel shaped device can be  
 comfortably operated while freely held in hand  
 during flossing.

## Examples of Barrel Shaped Automated Floss Dispensing and/or Accumulating Flossing Devices:

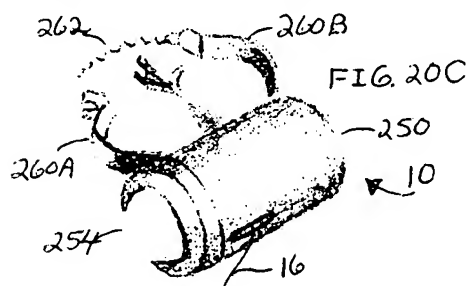
A separate finger ring or clip attachment can be used to hold a detachable version of the barrel and other various automated floss dispensing and accumulating shapes. Finger clips can be secured and adjusted for size and comfortable fit by various closings such as nub and strap with holes, slot with beaded strap, wing screw or other means of tightening.



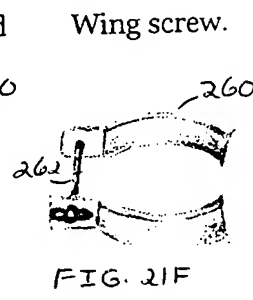
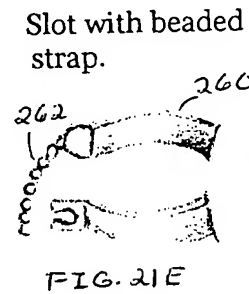
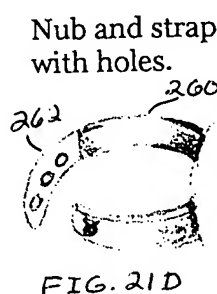
Barrel shape with permanently attached custom fit ring or tension adjustable clip to hold it on fingers.



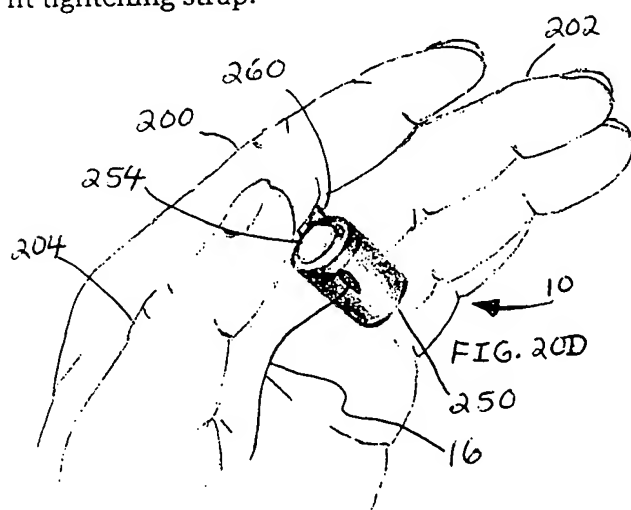
Detachable floss device holders with finger attachments.



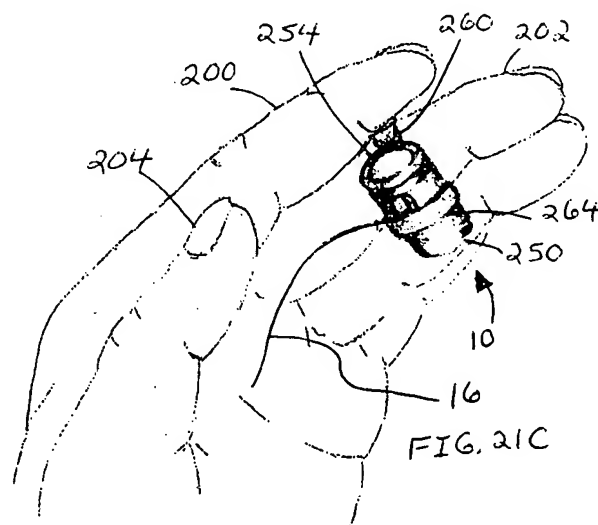
Two finger holding clip with custom fit tightening strap.



Various custom fit finger clip closings.



Barrel shape with permanently attached finger ring or clip.



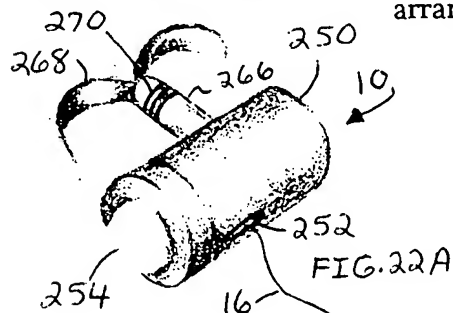
Barrel shape with detachable finger ring or clip arrangement.

Applicable models of finger holding devices can be secured to the finger higher or lower for individual preference.

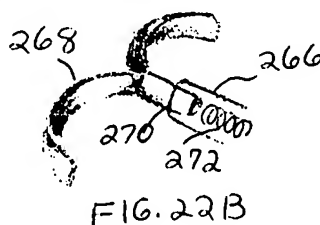
# Further Examples of Barrel Shaped Mechanized Floss Dispensing and/or Floss Accumulating Devices for Automated Flossing:

Finger attachment mechanisms can be permanently fixed to Barrels or detachable to allow use with new Barrels. Curved finger holders and/or curved attachment bars can be made of flexible material (plastic, metal, etc.) so that when placed behind fingers in a position selected by the user they bend to create a tension fit. Different basic sizes can accommodate variations in finger thickness. Further custom fit can be accomplished by various means including:

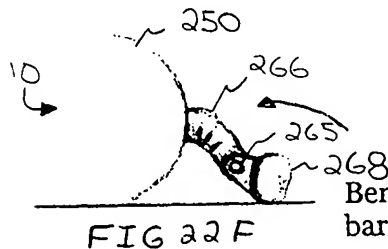
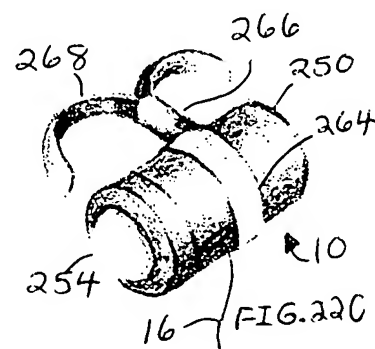
Screw shaft brings  
finger holders closer.



Elastic or spring with tension  
pulling in a rod and tube  
arrangement.

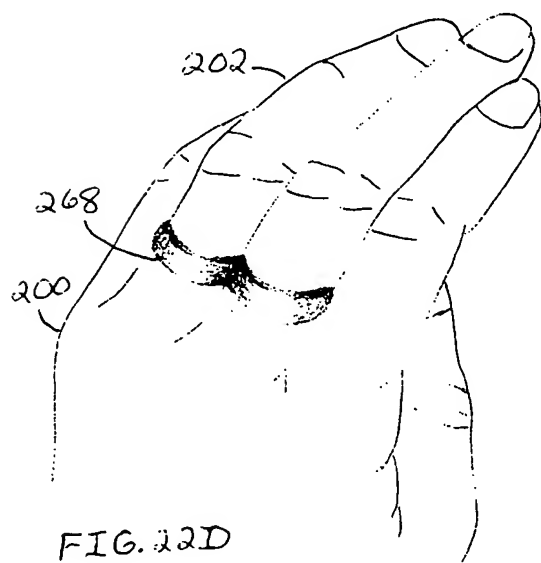


Solid attachment mechanism  
that comes in various sizes for  
comfortable fit.

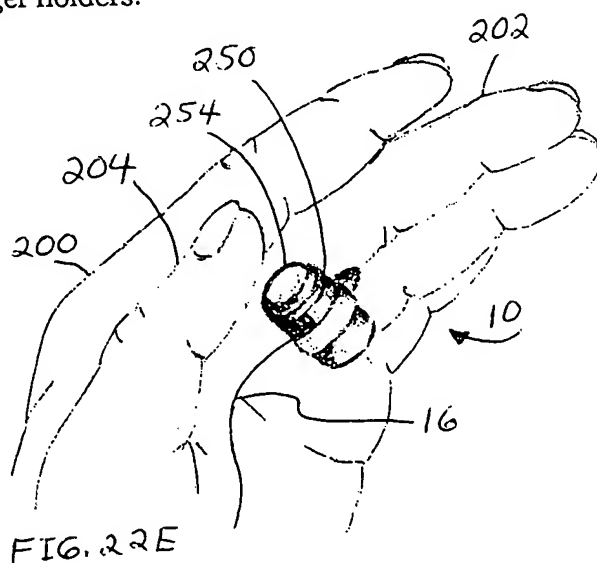


Bendable plastic attachment  
bar with hinged finger holders.

Barrel can be removed from the  
ring shaped holder to facilitate  
replacing or refilling.



Barrel shape with permanent spring  
tensioned holder behind the fingers.

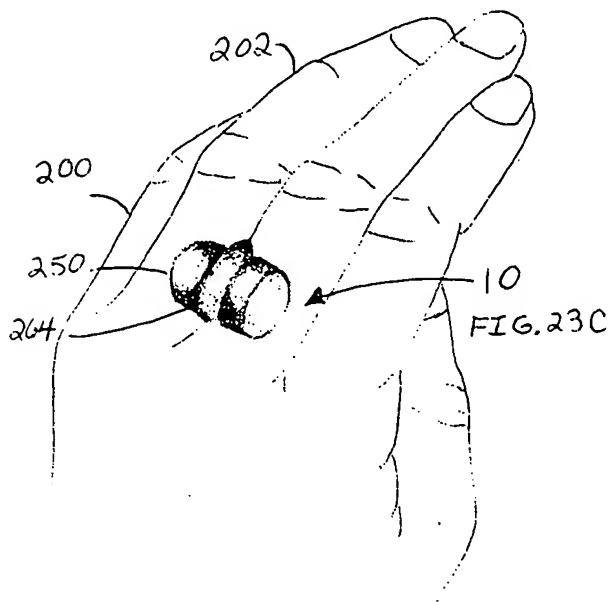
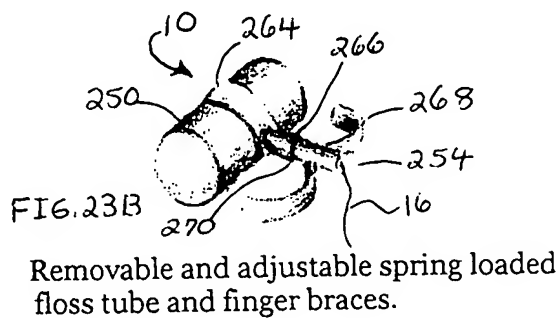
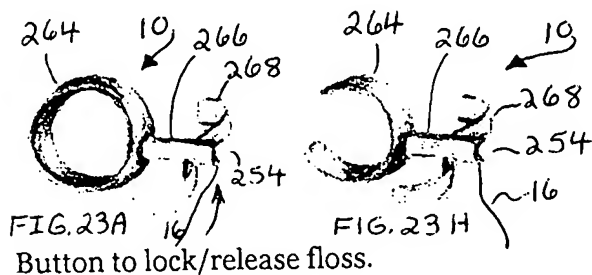


Barrel shape with behind the fingers holder  
and detachable barrel that can be adjustable  
for finger size via a screw mechanism to  
maximize comfortable fit and ease of use.

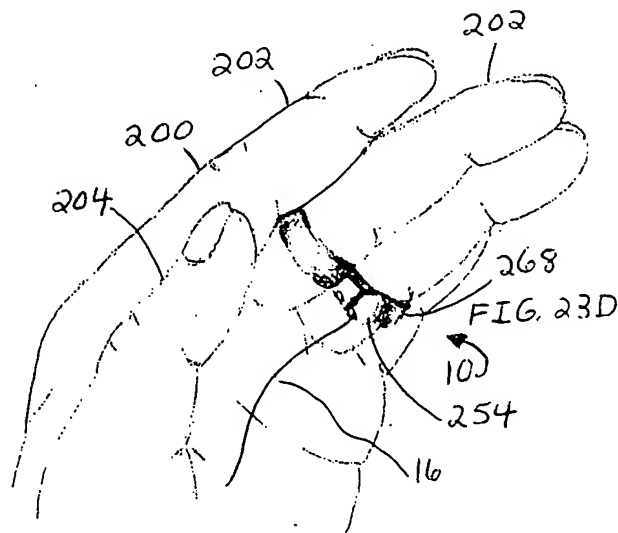


### Examples of Barrel Shape Automated Floss Dispensing and/or Accumulating Flossing Devices:

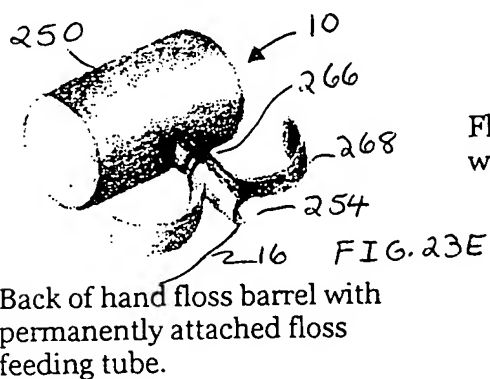
These versions have an adjustable floss feeding tube running from the back of the hand floss dispensing/accumulating device. The tube passes between the fingers to palm with attached, adjustable finger braces for comfortable holding on the fingers. A lock/release button is located on the end of the floss tube. Tube and braces can be adjusted by a spring, plastic or screw mechanism. Front of the floss feeding tube has a button to lock/release floss.



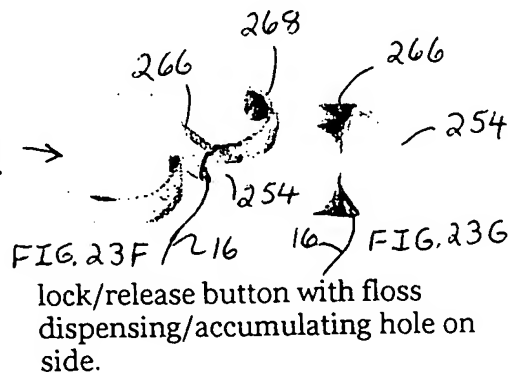
Back of hand detachable barrel shape held in ring or clip.



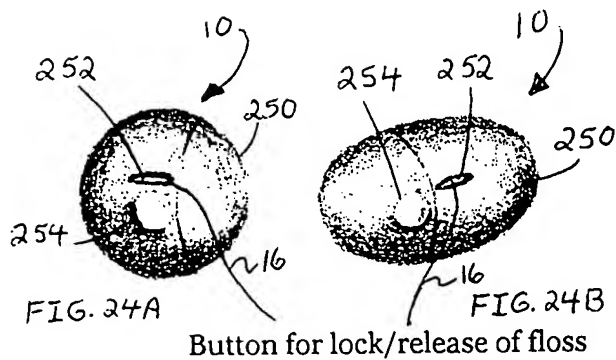
Between the fingers to palm floss feeding tube with attached adjustable finger brace and floss lock/release button on end of tube.



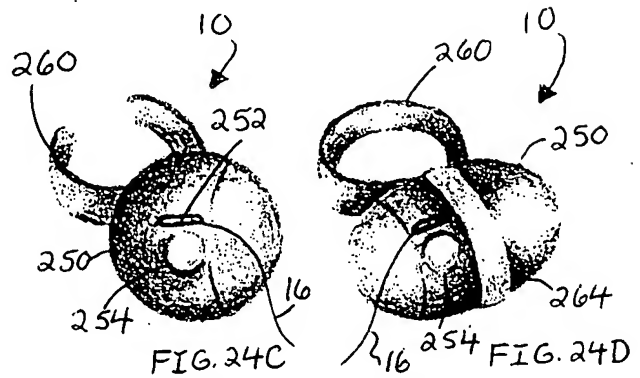
Floss feeding tube with finger braces.



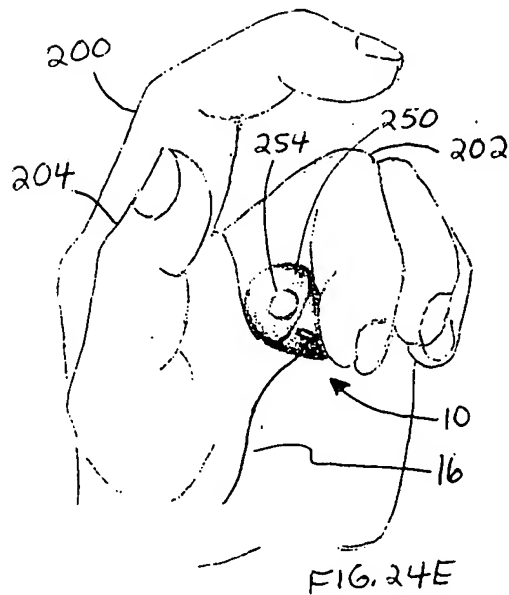
Examples of Ball Or Oval Shaped Automated Floss  
 Dispensing and/or Accumulating Flossing Devices:



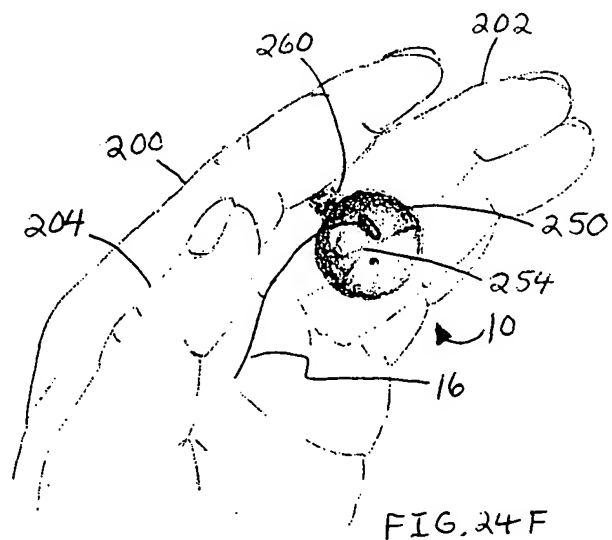
Ball or oval shaped devices can also be comfortably operated freely held in palm of hands.



Ball or oval shape with permanently attached or detachable finger ring with size inserts or clip with nub and strap with holes, slot with beaded strap, wing screw or other means to tighten on fingers.

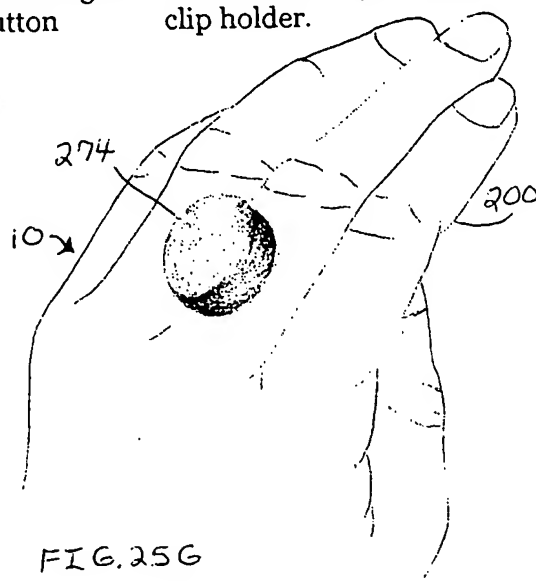
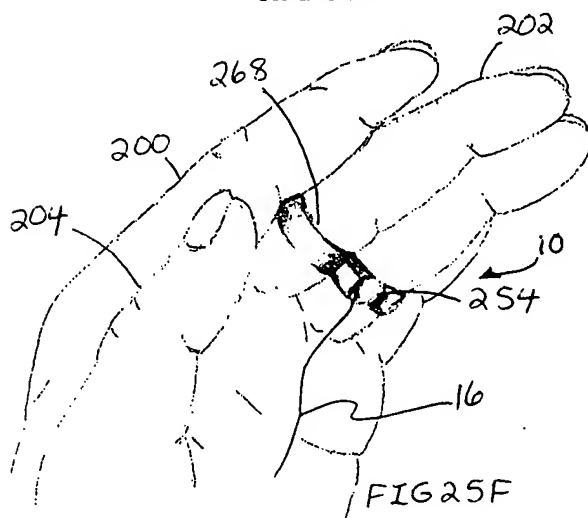
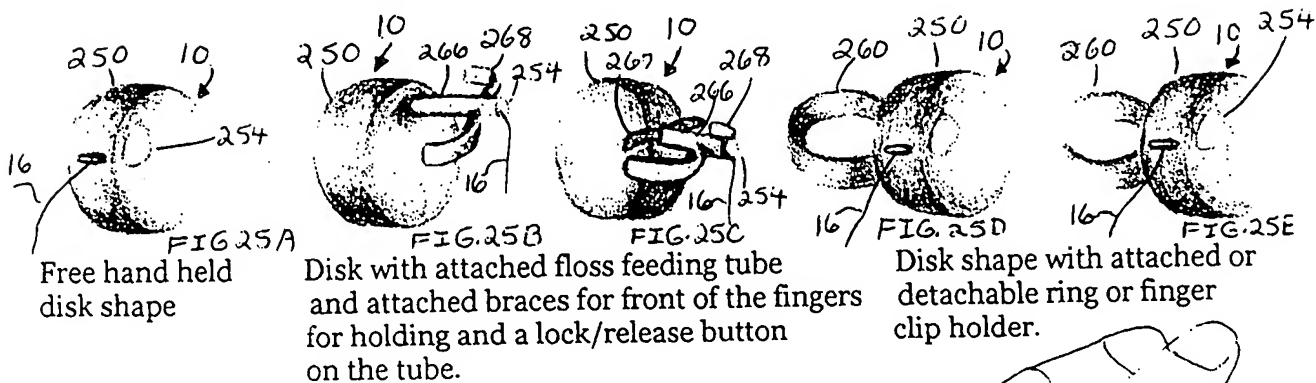


Free hand held ball or oval shape.

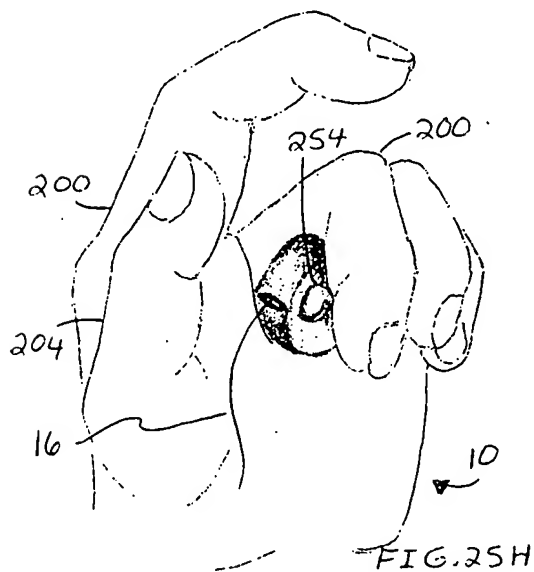


Ball or oval shape with permanently attached or detachable finger clip or ring.

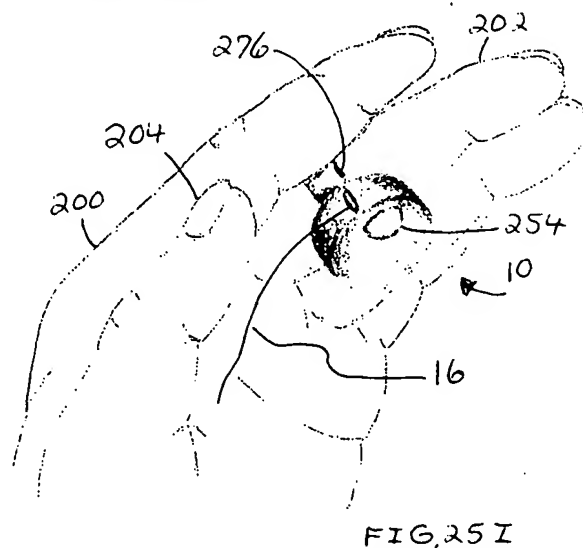
Examples of Disk Shaped Automated Floss  
 Dispensing Or Accumulating Flossing Devices:



Back of hand disk shape with between the fingers adjustable floss feeding tube with attached adjustable front of the fingers brace for holding and a lock/release button on the tube.

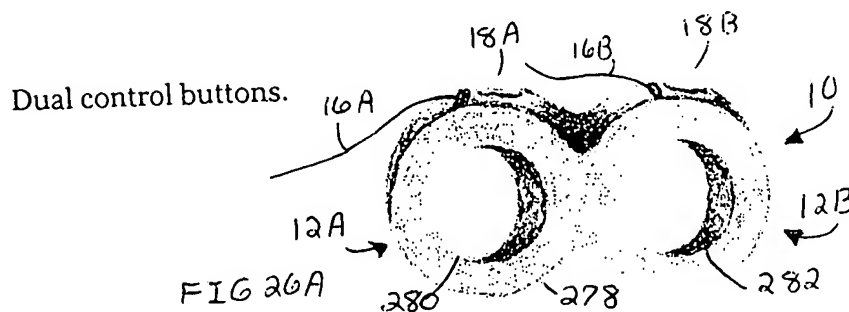


Disk shape freely held in hand.

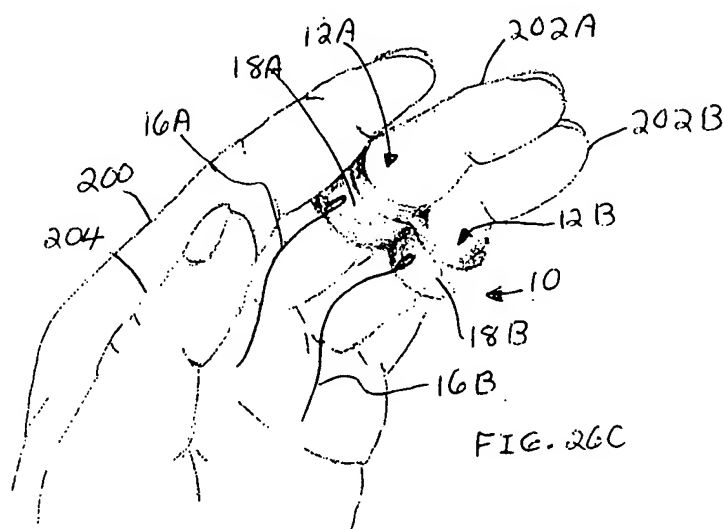
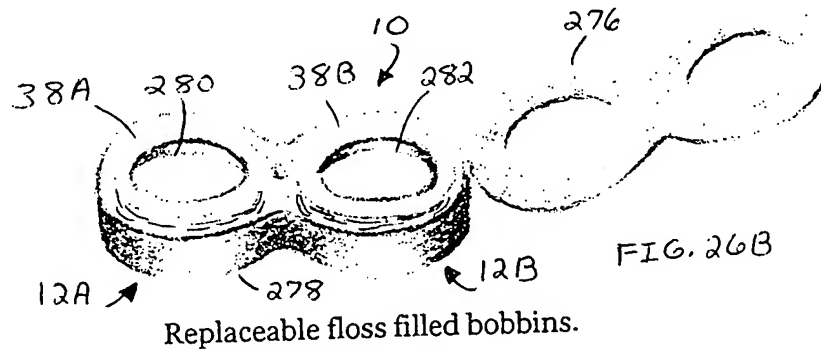


Disk shape with attached or detachable finger ring or clip.

Example of Double Ring Shaped Automated Dispensing Or Accumulating flossing Devices:



An attached dual ring floss dispensing or accumulating unit for increased floss capacity. Varying basic sizes can be made for individual user comfort. Custom sized finger inserts used for individualized fit with single AutoFloss Rings can also be used in this version.

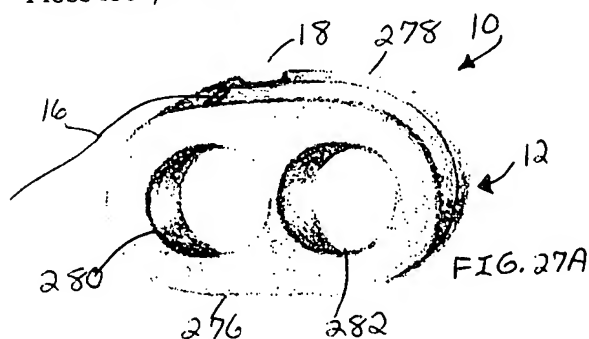


Double floss rings with dual control locking/unlocking buttons for automated flossing.

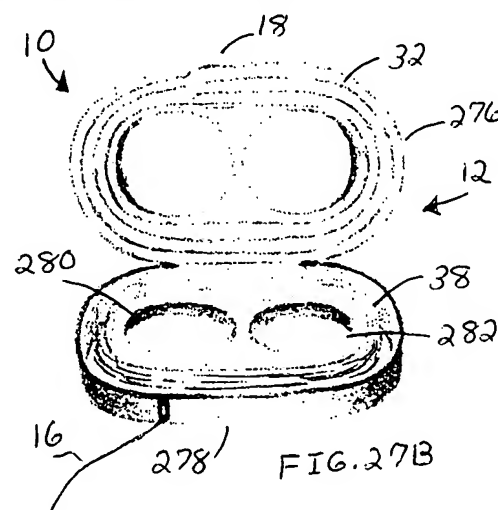
## Example of Knuckle Mounted Automated Dispensing Or Accumulating Flossing Devices:

Automated Floss Knuckles for middle and fourth fingers facilitating added floss capacity. This version can be made in various initial sizes and utilize the custom finger size inserts for single unit configurations that are sold separately. Separate floss filled bobbins can be offered.

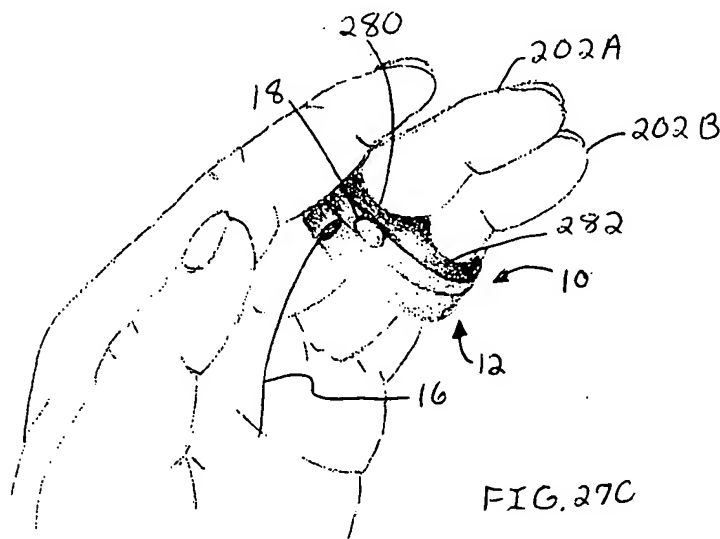
Floss lock/release button.



Spring loaded drive mechanism.

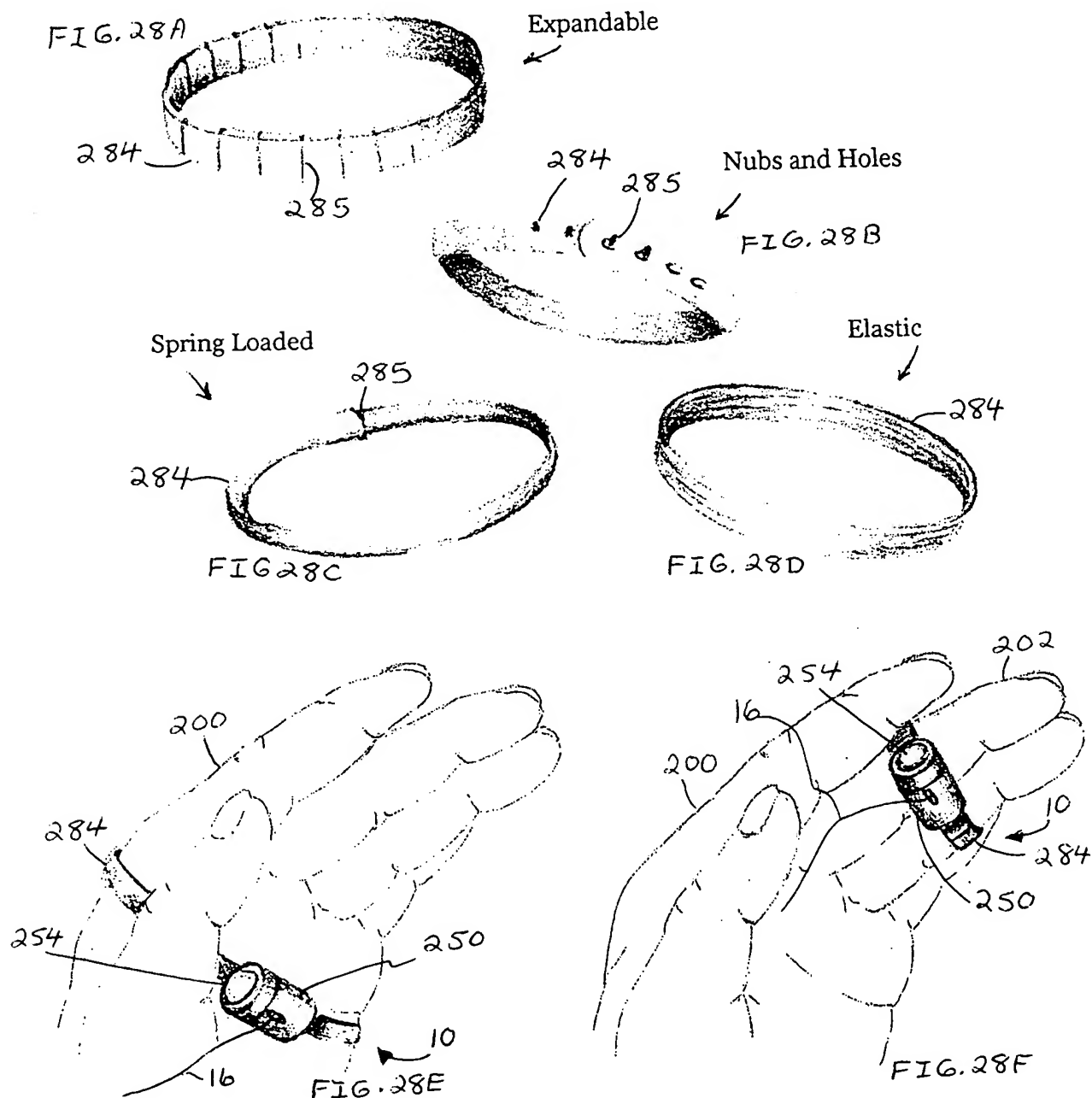


Floss revolves around a molded plastic or other material housing on a flexible band with any of myriad spring arrangements similar to the ring shaped drives.



### Additional Versions Of Floss Dispensing Or Accumulating Device Holders.

Various shapes of floss dispensing or accumulating devices can be mounted on bracelet style bands. They can be detachable or permanently attached to an adjustable, flexible, stretchable, or expandable bracelet or band that surrounds the base of the hand or fingers and worn at a position of the wearer's choice for individual comfort. These assorted holding apparatuses can be made of any material such plastic, fabric, flexible metal, elastic, rubber or the like with various means of closure, adjusting or stretching, etc., for ideal fit:



Barrels or any other shapes can be attached to a band positioned around two or three fingers or the base of the hand.